

71



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,751	07/31/2002	Karl-Willie Hoel	48046/DBP/T164	2804
23363	7590	04/04/2006	EXAMINER	
CHRISTIE, PARKER & HALE, LLP			NEWVILLE, TONI E	
PO BOX 7068			ART UNIT	
PASADENA, CA 91109-7068			PAPER NUMBER	
			3671	
DATE MAILED: 04/04/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/089,751	Applicant(s) HOEL, KARL-WILLIE	
	Examiner Toni Newville	Art Unit 3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/23/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 1/23/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 102

2. Claims 27-32, 37-43 and 49 are rejected under 35 U.S.C. 102(b) as being anticipated by Cunningham et al., US 5819852.

Regarding claim 27, Cunningham discloses a subsea lubricator (Figs. 1 and 2) for attachment to a subsea Christmas tree (14) comprising at least one tree passage (68, 70) therethrough, the lubricator comprising:

- At least one lubricator passage (52, 60, 64, 68, 54, 62, 66, 70) which communicates with at least one tree passage in the subsea Christmas tree (Fig. 2); and
- At least one bypass assembly (82) comprising at least one bypass passage which communicates with at least one tree passage (68) in the subsea Christmas tree (14).

Regarding claim 28, Cunningham discloses the at least one bypass assembly (82) further comprising at least one lower bypass pipe (Fig.2, below 84), and at least one upper bypass pipe (Fig. 2, above 84) removably connected to the at least one lower bypass pipe (by disconnection of riser safety package 24).

Regarding claim 29, the examiner takes OFFICIAL NOTICE that having a bypass assembly comprise at least two upper bypass pipes would have been obvious to one of ordinary skill in the art since it is known in the hydrocarbon drilling and production arts to couple as many lengths of piping are necessary to achieve a tubular structure of a given length.

Regarding claim 30, Cunningham discloses the subsea lubricator further comprising a tool housing portion (generally 52 and 54; column 3 lines 46-50) comprising an upper end and a bore (52, 54, 64, 66) which defines a portion of the at least one lubricator passage, the bypass assembly further comprising a crossover assembly (72) for fluidly connecting the at least one upper bypass pipe with at the at least one lubricator passage at a location proximate the upper end of the tool housing portion (26) (Fig. 1).

Regarding claim 31, Cunningham further discloses a pressure control assembly (76, 78, 80) disposed generally below the tool housing portion, the pressure

control assembly comprising a lower end, a bore (64) which defines a portion of the lubricator passage, and at least one pressure control valve (76, 78, 80) for selectively closing the lubricator passage, the bypass assembly further comprising a valve assembly (84) for fluidly connecting the at least one lower bypass pipe with the lubricator passage at a location below the at least one pressure control valve (Fig. 2).

Regarding claim 32, the crossover assembly (72) further comprising a connector (inherent in umbilical 32, see column 5 lines 3-8) for fluidly connecting the crossover assembly to an external fluid source.

Regarding claim 37, the lubricator further comprises an adaptor (26), the valve assembly (84) forming a portion of the adapter (Figs. 1 and 2).

Regarding claim 38, the adaptor (26) is removably attached to the pressure control assembly (76, 78, 80), the adaptor (26) comprising a subsea connector adapted for connection to the subsea Christmas tree (14).

Regarding claim 39, the subsea Christmas tree (14) further comprises a production passage (68) and an annulus passage (70), the adaptor (26) further comprising a first adaptor passage (64) for fluidly connecting the at least one lubricator passage with the production passage (68) in the subsea Christmas tree

(14), and a second adaptor passage (66) for fluidly connecting the at least one lower bypass pipe with the annulus passage (70) via crossover assembly (72) in the subsea Christmas tree (14).

Regarding claim 40, the subsea Christmas tree (14) further comprises a production passage (68) and a an annulus passage (70), the adaptor (26) further comprising a first adaptor passage (66) for fluidly connecting at least one lubricator passage with the annulus passage (70) in the subsea Christmas tree (14), with a second adaptor passage (64) for fluidly connecting the at least one lower bypass pipe with the production passage (68) in the subsea Christmas tree (Fig. 2).

Regarding claim 41, the lubricator inherently comprises a valve actuator (column 5 lines 3-9).

Regarding claim 42, Cunningham discloses a method for circulating fluid in a subsea lubricator attached to a subsea Christmas tree (14) landed on a subsea well, the method comprising:

- Providing at least one bypass passage (82) fluidly connecting the subsea lubricator to the subsea Christmas tree (14);
- Connecting the subsea lubricator to a source of first external fluid (column 6 lines 22-25);

- Injecting the first external fluid into the subsea lubricator to displace a first internal fluid within the subsea lubricator; and
- Circulating the first internal fluid to the subsea well through the bypass passage and the subsea Christmas tree (column 6 lines 22-25).

Regarding claim 43, the first external fluid comprises water (column 6 lines 22-23).

Regarding claim 49, Cunningham discloses a method for injected fluid into a well that may be used to kill the well, the well having a subsea Christmas tree (14) landed thereon, the method comprising:

- Landing a subsea device on said subsea tree (32), said subsea device comprising at least one valve (76, 78, 80, 74, 84);
- Providing at least one bypass passage (82) fluidly connecting the subsea tree with a source of kill fluid; and
- When said at least one valve (80) is closed, injecting said kill fluid into said well through said bypass passage (82) and the subsea tree (column 6 lines 22-25).

Regarding claim 50, Cunningham discloses a method of circulating fluids in a subsea well, the method comprising the apparatus of claim 40, and comprising the step of

Art Unit: 3671

- Connecting a first supply pipe (50) to a first passage (60);
- Connecting a second supply pipe (32) to the lower bypass passage; and
- Circulating fluid from a second supply pipe, through the lower bypass pipe (below 84), through the annulus passage (66), down into the well through the tubing annulus, through the downhole fluid connection (72), up through the tubing string, through the production passage, through the first passage (64) in the pressure control assembly, and into the first supply pipe (50) (column 6 lines 22-25).

Regarding claim 51, Cunningham a method of circulating fluids in a subsea well, the method comprising the apparatus of claim 40, and comprising the step of Connecting a first supply pipe (50) to a first passage (60); Connecting a second supply pipe (32) to the lower bypass passage; and Circulating fluid from a first supply pipe (50), through the first passage (64) in the pressure control assembly, through the production passage (64), down into the well through the tubing string, through the downhole fluid connection (67), up the tubing annulus (70), through the annulus passage (66), and into the second supply pipe (32) (column 6 lines 22-25).

Regarding claim 52, Cunningham discloses a lubricator for attachment to a subsea Christmas tree having the structure of claim 40, and further comprising:

A fluid connection between the at least one upper bypass pipe (above 82) and the lubricator passage (52) at an upper end of the tool housing (52), the fluid connection comprising a crossover having a connector for attachment of an external fluid supply source (32).

Claim Rejections - 35 USC § 103

3. Claims 33, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al., US 5819852, in view of Robertson, US 6360822.

Regarding claim 33, Cunningham discloses a lubricator as described above, including a subsea Christmas tree (14) comprising a production passage (68) and an annulus passage (70), the valve assembly further comprising a first inlet fluidly connected to the at least one lower bypass pipe (below 84, Fig. 2) and a second fluid inlet (inherent in umbilical 32, see column 5 lines 3-8) fluidly connected to a subsea umbilical (32). Cunningham fails to disclose first and second fluid outlets connected to the production and annulus passages, respectively.

Like Cunningham, Robertson discloses a subsea Christmas tree (Fig. 3) comprising a production passage (35) and an annulus passage (38). Unlike Cunningham, Robertson discloses a first outlet (36) fluidly connected to the production passage (35) and a second outlet (38) fluidly connected to the annulus passage (38) in the subsea Christmas tree.

Art Unit: 3671

Given the suggestion in Robertson, it would have been obvious to one of ordinary skill in the art to include first and second outlets on the subsea Christmas tree (Cunningham; 14) of Cunningham as taught in Robertson to allow fluids from the production bore and annulus to be connected to subsea flow lines or jumpers, thereby allowing an additional flow path for hydrocarbons and injected fluids in case the riser passage is disconnected or sealed.

Regarding claims 35 and 36, Robertson discloses a stop valve (37, 40) disposed in the first and second outlets, respectively.

Regarding claim 53, the limitations therein have been described above in the rejection of claim 33.

Regarding claim 54, the limitations therein have been described above in the rejection of claims 33 and 37.

4. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al., US 5819852, in view of Robertson, US 6360822, as applied to claim 33 above, and further in view of Cowan, GB 2233365.

Cunningham and Robertson disclose a combination of lubricators as described above, including first and second inlets (Cunningham; near 32 and below 84), the inlets having first (84) and second (inherently, see column 6 lines 8-11) valves. The combination fails to disclose the valves being check valves.

Like the combination, Cowan discloses a lubricator, including first and second inlets (108, 109). Unlike the combination, Cowan discloses the valves being check valves (114).

Given the suggestion in Cowan, it would have been obvious to one of ordinary skill in the art to include check valves on the inlets of the combination to ensure flow in the proper direction during operation of the lubricator.

5. Claims 44, 45, 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al., US 5819852, in view of Doremus et. al., US 4658904.

Regarding claim 44, Cunningham discloses a method of circulating fluid in a subsea intervention device as described above, including a first external fluid. Cunningham fails to disclose using a hydrate inhibitor as the first external fluid.

Like Cunningham, Doremus discloses a method of circulating fluid in a subsea intervention device. Unlike Cunningham, Doremus discloses using a hydrate inhibitor (column 5 lines 21-24) as the external fluid.

Art Unit: 3671

Given the suggestion in Doremus, it would have been obvious to one of ordinary skill in the art to modify Cunningham as taught in Doremus by using a hydrate inhibitor as the external fluid to prevent the formation of hydrates (column 13 lines 49-53), thereby preventing hydrocarbon solids from blocking the narrow passages of the lubricator.

Regarding claim 45, it is commonly known in the art that methanol and glycol are standard hydrate inhibitors.

Regarding claims 47 and 48, Cunningham discloses a method of circulating fluid in a subsea intervention device as described above, including a first external fluid comprising water and a first internal fluid. The internal fluid could inherently be water (claim 47) or produced hydrocarbons (claim 48). Cunningham further discloses umbilicals capable of handling injection of a second external fluid (column 5 lines 3-8) (claim 48). Cunningham fails to disclose using a hydrate inhibitor as the first external fluid.

Like Cunningham, Doremus discloses a method of circulating fluid in a subsea intervention device, including a first internal fluid and a first external fluid. Unlike the combination of Cowan and Coutts, Doremus discloses using a hydrate inhibitor (column 5 lines 21-24) as the external fluid.

Given the suggestion in Doremus, it would have been obvious to one of ordinary skill in the art to modify the combination of Cowan and Coutts as taught in Doremus by

using a hydrate inhibitor as the external fluid to prevent the formation of hydrates (column 13 lines 49-53), thereby preventing hydrocarbon solids from blocking the narrow passages of the lubricator.

6. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham et al., US 5819852, in view of Coutts, WO 93/03254.

Cunningham discloses a method of circulating fluid in a subsea intervention device as described above, including a first external fluid. Cunningham fails to disclose using a diluent fluid as the first external fluid.

Like Cunningham, Coutts discloses a method of circulating fluid in a subsea intervention device. Unlike Cunningham, Coutts discloses using barites mud or brine (page 15 lines 6-7) as the external fluid.

Given the suggestion in Coutts, it would have been obvious to one of ordinary skill in the art to using a diluent fluid such as barites mud or brine in the circulation method of Cunningham so that sands or other particulate matter can be cleaned up by the circulation procedure.

Response to Arguments

7. Applicant's arguments, filed 2/1/2006, with respect to the rejection(s) of claim(s) 27-54 have been fully considered and are persuasive. Therefore, the rejection has

Art Unit: 3671

been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cunningham et al, US 5819852.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

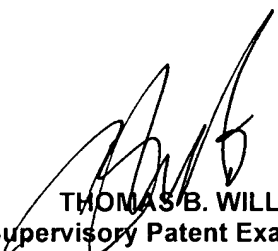
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toni Newville whose telephone number is (571) 272 - 1548. The examiner can normally be reached on Monday - Friday 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will can be reached on (571) 272-6998. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Art Unit: 3671

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toni Newville
March 30, 2006



THOMAS B. WILL
Supervisory Patent Examiner
Group 3600